Morphology of the podocarps.—SINNOTT[17] has investigated the reproductive structures of the Podocarpineae and has come to some conclusions in reference to the relationships of the group. The detailed results are too numerous to be cited here, but the author has canvassed the structures of the ovulate strobilus, the characteristic male gametophyte, the wings of the pollen grains, the female gametophyte, fertilization, the proembryo, and the endosperm, and has concluded that the group has been derived from the Abietineae through forms resembling *Podocarpus*, which is therefore the oldest genus. Some striking resemblances between the podocarps and araucarians further suggest that both of these groups may have arisen from an ancient group closely allied to the Abietineae. A connection with the taxads is also suggested by resemblances between *Cephalotaxus* and certain species of *Podocarpus*, the conclusion being that the Taxineae, through *Cephalotaxus* (its most ancient genus), may have arisen from some ancient member of the Podocarpineae.—J. M. C.

Adventive branches in Frullania.—Miss LORENZ[18] finds that 4 of the 11 species of *Frullania* in New England reproduce vegetatively by adventitious shoots. From her statements it seems that a marginal cell of a leaf enlarges; that the first two planes of division are anticlinal, giving a quadrant of more or less unequal cells; that the next plane of division is periclinal; that from one of the outer cells of the resulting octant a pyramidal apical cell which gives rise to the shoot is developed. The first leaves of the shoot are rudimentary, but very soon the adult form appears. Ventral leaves are also delayed. As should perhaps be expected, these vegetative shoots are more frequent on dioecious than on autoecious species.—W. J. G. LAND.

Origin of species in Hieracium.—OSTENFELD[19] has conducted an extensive set of experiments with *Hieracium* to discover the possible relationship between its polymorphism and its strong tendency to apogamy. He has reached the conclusion that new forms arise as hybrids and also by single variations (mutations), and that in both of these cases "the prevailing apogamy supports their existence and constancy." This means that the polymorphism of the genus is correlated with its apogamy.—J. M. C.

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[17] SINNOTT, EDMUND W., The morphology of the reproductive structures in the Podocarpineae. Ann. Botany **27**:39–82. *figs. 9. pls. 5–9.* 1913.

[18] LORENZ, ANNIE, Vegetative reproduction in the New England Frullaniae. Bull. Torr. Bot. Club **39**:279–284. *figs. 3.* 1912.

[19] OSTENFELD, C. H., Experiments on the origin of species in the genus *Hieracium* (apogamy and hybridism). New Phytol. **11**:347–354. 1912.